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503.30414V18

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): KATO, et al.
Serial No.: 09/614,764
Filed: July 12, 2000
For: VACUUM PROCESSING APPARATUS AND OPERATING
METHOD THEREFOR
Group: 3749
Examiner: S. Gravini
Allowed: October 13, 2000
Batch No.: T69

INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR 1.97 AND 1.98 AND PETITION

Assistant Commissioner for Patents
Box Issue Fee
Washington, D.C. 20231

November 28, 2000

Sir:

Pursuant to Applicants' duty of disclosure, submitted herewith are two documents to be considered by the Examiner upon further consideration of the above-identified application. Also enclosed is a Form, substantially equivalent to Form PTO-1449, listing the enclosed documents.

This Information Disclosure Statement is being submitted subsequent to issuance of the Notice of Allowance in connection with the above-identified application, but prior to payment of the Issue Fee in connection therewith. In order to satisfy the requirements of 37 CFR 1.97(d), Applicants respectfully petition for consideration of this Information Disclosure Statement. The Petition fee set forth in 37 CFR 1.17(i) is enclosed herewith.

Moreover, in order to satisfy additional requirements of 37 CFR 1.97(d), the undersigned hereby states that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonably inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 CFR 1.56(c), more than three months prior to the filing of this Information Disclosure Statement. See 37 CFR 1.97(e)(2).

Of the presently submitted documents, note that U.S. Patent No. 5,436,848 to Nishida, et al. has a filing date of April 15, 1993, and is a Continuation-in-Part of application Serial No. 750,794, filed August 27, 1991. It is respectfully submitted that the present submission of this document does not constitute an admission that this document is prior art.

U.S. Patent No. 4,923,584 to Bramhall, et al. discloses a modular sputtering system capable of sputter coating substrates either serially or in a selective access sequence. The disclosed structure in this patent has a central substrate handling or staging chamber with separately pumped process chambers, and dual load lock chambers which are alternately loaded with multiple-piece substrate batches (25 pieces being a standard batch of semiconductor wafers) using an external substrate handling robot. While one substrate batch is undergoing load lock evacuation, the second batch, having been previously evacuated, is accessible to the central wafer handling robot for purposes of execution of the coating

process. Note, for example, column 3, lines 28-49.

It must be emphasized that U.S. Patent No. 4,923,584 has load-lock chambers loaded with multiple-piece substrate batches (25 pieces being a standard batch of semiconductor wafers). All 25 pieces are loaded into the load lock chamber, with the wafers thereafter being transferred for processing. Thus, all 25 pieces are loaded without further opening or closing of the load lock chamber, therebetween. It is respectfully submitted that the teachings of U.S. Patent No. 4,923,584 would have neither taught nor would have suggested, and in fact would have taught away from, the presently claimed subject matter, including the opening and closing devices for opening and closing one of the two lock chambers every carrying-in of the substrate, one by one, and every carrying-out of the substrate, one by one, to and from the lock chambers, and use of these opening and closing devices when opening and closing the lock chambers.


In view of the foregoing, it is respectfully submitted that all requirements of 37 CFR 1.97 and 1.98 have been satisfied, in connection with present submission of the enclosed documents. Accordingly, consideration of the enclosed documents is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 CFR § 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to the Deposit

Account No. 01-2135 (Case No. 503.30414V18) and please credit
any excess fees to such Deposit Account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

A handwritten signature in black ink, appearing to read "William I. Solomon", written over a horizontal line.

William I. Solomon
Registration No. 28,565

WIS/slk
Enclosures